

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kim et al. ) Group Art Unit Unknown  
App. No. : Unknown )  
Filed : Herewith )  
For : DOUBLE-SPIRO ORGANIC )  
COMPOUNDS AND )  
ORGANIC )  
ELECTROLUMINESCENT )  
DEVICES USING THE SAME )  
Examiner : Unknown )

INFORMATION DISCLOSURE STATEMENT

United States Patent and Trademark Office  
P.O. Box 2327  
Arlington, VA 22202

Dear Sir:

Enclosed is form PTO-1449 listing references that are also enclosed. This Information Disclosure Statement is being filed within three months of the filing date of this application or upon filing if this is a CPA or RCE, and no fee is required in accordance with 37 C.F.R. § 1.97(b)(1), (b)(2), or (b)(4).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 3/14/02

By: Paul C. Steinhardt

Paul C. Steinhardt  
Registration No. 30,806  
Attorney of Record  
620 Newport Center Drive  
Sixteenth Floor  
Newport Beach, CA 92660  
(619) 687-8617

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  <b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>  (USE SEVERAL SHEETS IF NECESSARY)	ATTY. DOCKET NO. MUTU12.001AUS		APPLICATION NO. Unknown	
	APPLICANT Kim et al.			
	FILING DATE Herewith		GROUP Unknown	

J1011 U.S. PTO  
 10/099781  
 03/14/02

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS
	1	5,840,217	Nov. 24, 98	Lupo et al.		
	2	5,026,894	Jan. 25, 91	Tour et al.		

FOREIGN PATENT DOCUMENTS									
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION		
							YES	NO	

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
	3	Hamada et al., Organic light-emitting diodes using a gallium complex., April 20, 1998, American Institute of Physics, Volume 72, No. 16.
	4	Murata et al., Organic light-emitting devices with saturated red emission using 6, 13-diphenylpentacene., April 16, 2001, American Institute of Physics, Volume 78, No. 16.
	5	Shi et al., Doped organic electroluminescent devices with improved stability., March 31, 1997, American Institute of Physics, Volume 70, No. 13.
	6	Adachi et al., High-efficiency organic electrophosphorescent devices with tris(2-phenylpyridine) iridium doped into electron-transporting materials., August 7, 2000, American Institute of Physics, Volume 77, No. 6.
	7	Adachi et al., High-efficiency red electrophosphorescence devices., March 12, 2001, American Institute of Physics, Volume 78, No. 11.
	8	Burrows et al., Operating lifetime of phosphorescent organic light emitting devices., May 1, 2000, American Institute of Physics., Volume 76, No. 18.
	9	Baldo et al., Very high-efficiency green organic light-emitting devices based on electrophosphorescence., July 5, 1999, American Institute of Physics., Volume 75, No. 1.
	10	Baldo et al., Improved energy transfer in electrophosphorescent devices., January 18, 1999, American Institute of Physics., Volume 74, No. 3.
	11	Hamada et al., Organic light-emitting diodes using 3- or 5-hydroxyflavone-metal complexes., December 8, 1997, American Institute of Physics., Volume 71, No. 23.
	12	Baldo et al., Improved energy transfer in electrophosphorescent devices., January 18, 1999, American Institute of Physics., Volume 74, No. 3.
	13	Gigli et al., High-efficiency oligothiophene-based light-emitting diodes., July 26, 1999, American Institute of Physics., Volume 75, No. 4.
	14	Kido et al., Fabrication of highly efficient organic electroluminescent devices., November 9, 1998, American Institute of Physics., Volume 73, No. 19.
	15	Yang et al., Photoluminescence and electroluminescence properties of dye-doped polymer system., 1997, Elsevier Science S.A., Synthetic Metals., 335-336.
	16	Watanabe et al. Optimization of emitting efficiency in organic LED cells using Ir complex., 2001, Elsevier Science S.A., Synthetic Metals., 203-207.
	17	Liedenbaum., Low voltage operation of large area polymer LEDs., 1997, Elsevier Science S.A., Synthetic Metals., 109-111.
	18	Hide et al., Conjugated polymers as solid-state laser materials., 1997, Elsevier Science S.A., Synthetic Metals., 35-40.
	19	Muckl et al., Transient electroluminescence measurements on organic heterolayer light emitting diodes., 2000, Elsevier Science S.A., Synthetic Metals., 91-94.

EXAMINER	DATE CONSIDERED
*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  <b>INFORMATION DISCLOSURE STATEMENT          BY APPLICANT</b>  (USE SEVERAL SHEETS IF NECESSARY)	ATTY. DOCKET NO. MUTU12.001AUS		APPLICATION NO. Unknown
	APPLICANT Kim et al.		
	FILING DATE Herewith	GROUP Unknown	

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
20	Shoustikov et al., Orange and red organic light-emitting devices using aluminum tris(5-hydroxyquinoxaline), 1997, Elsevier Science S.A., Synthetic Metals., 217-221.
21	Tokito et al., strongly modified emissio from organic eletctroluminescent device with a microcavity., 1997, Elsevier Science S.A., Sythetic Metals., 49-52.
22	Wakimoto et al., Stability characteristics of quinacridone and coumarin molecules as guest dopants in the organic LEDs., 1997, Elsevier Science S.A., Sythetic Metals., 15-19.
23	Ma et al., Bright blue electroluminescent devices utliliaing poly (N - vinylcarbazole) doped with fluorescent dye., 1997, Elsevier Science S.A., Sythetic Metals., 331-332.
24	Sano et al., Organic eletroluminescent devices doped condensed polycyclic aromatic compounds., 1997, Elsevier Science S.A., Sythetic Metals., 27-30.
25	Mitschke et al., The electroluminescence of organic materials., 2000, The Royal Society of Chemistry, 1471-1507.
26	Barbarella et al., Modified Oligothiophenes with High Photo and Electroluminescence Efficiencies., 1999, Advanced Materials, 11, No. 16.
27	Schmitz et al., Polyneric Light-Emitting Diodes Based on Poly(p-phenylene ethynylene), Poly(triphenyldiamine), and Spiroquinoxaline., 2001, Advanced Functional Materials, 11, No. 1.
28	Lamansky et al., Synthesis and Characterization of Phosphorescent Cyclometalated Iridium Complexes., 2001, Dept. of Chemistry, University of Southern California, 1704-1711.
29	Lamansky et al., Highly Phosphorescent Bis-Cyclometalated Iridium Complexes: Synthesis, Photophysical Characterization, and Use in Organic Light Emitting Diodes., 2001, American Chemical Society, 123, 4304-4312.
30	Tsutsui et al., High Quantum Efficiency in Organic Light-Emitting Devices with Iridium-Complex as a Triplet Emissive Center., 1999, Japanese Journal fo Applied Physics., Volume 38, L1502-L1504.
31	Naito et al., Molecular Design for Nonpolymeric Organic Dye Glasses with Thermal Stability: Relations between Thermodynamic Parameters and Amorphous Properties., 1993, The Journal of Physical Chemistry, Volume 97, No. 23, 6240-6248.
32	Bath et al., Electron mobility in tris(8-hydroxy-quinoline)aluminum thin films determined via transient eletroluminescence from single- and multilayer organic light-emitting diodes., April 1, 2001, Journal of Applied Physics, Volume 89, No. 7, 3711-3719.
33	Adachi et al., Organic electroluminescence of silole-incorporated polysilane., 2000, Journal of Luminescence, Volume 87 89, 1174-1176.
34	Clarkson et al., Sprans with four aromatic radicals on the spiro carbon atom., 1930, The Chemistry Laboratory of the Unoversity of Michigan, Volume 52, 2881-2891.

S:\DOCS\MCK\MCK-5651.DOC  
031302

EXAMINER	DATE CONSIDERED
*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	